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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,572	11/11/2003	Michael Donovan Mitchell	8681RCR	4234
27752 7590 01/09/2008 THE PROCTER & GAMBLE COMPANY INTELLECTUAL PROPERTY DIVISION - WEST BLDG. WINTON HILL BUSINESS CENTER - BOX 412 6250 CENTER HILL AVENUE CINCINNATI, OH 45224			EXAMINER KIM, SUN U	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/09/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/705,572

Applicant(s)

MITCHELL ET AL.

Examiner

John Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-9, 11-15 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9, 11-15 and 17-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/26/07 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 7-9, 11-13 and 17-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannon et al (US Pat. No. 6,881,348) in view of Hill (US Patent No. 1,782,850) and Koslow (US Patent No. 6,630,016).

Regarding claim 7, Cannon et al teach a column i.e. housing having an inlet and an outlet and a filter material disposed in the column comprising a plurality of mesoporous activated carbon particles loaded with an cationic polymer (see col. 2, lines 41-54; col. 9, lines 17-41;

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Table 2: Ultracarb bituminous or lignite granular activated carbon (GAC) (mesoporous) loaded with PDADMAC (polydiallyldimethylammonium chloride)) for removing perchlorate or other anionic contaminate from ground water wherein activated carbon is thermally treated in ammonia inherently resulting in mesoporous and basic activated carbon (see col. 5, lines 9-19). However, Cannon et al do not teach mesoporous activated carbon filter particles at least partially coated with silver or a silver containing material for bacteria and virus removal. Hill teaches that bacteria are removed from water by activated carbon (see col. 1, lines 36-58). Koslow teaches a filter comprising a silver, effective biocide, coated or precipitated onto the filter particles coated with cationic polymers (see col. 5, line 65 – col. 8, line 6). The use of known mesoporous activated carbon particles modified with a coating of silver would have been obvious to a person of ordinary skill in the art to yield predictable result of effectively providing potable water by employing sheer bacteria removal capability of activated carbon as suggested by Hill with inclusion of silver effective biocide under conditions of high ionic strength as suggested by Koslow (see col. 7, lines 53-64). Furthermore, the bacteria removal capability of mesoporous activated carbon is an inherent property of activated carbon. Recitation of “the filter is operable to remove microorganisms from water flowing into said inlet and out of said outlet” is an intended use. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Mesoporous activated carbon particles of Cannon et al in a column has inherent capabilities of claimed F-BLR and F-VLR by its sheer mesoporosity of activated carbon absent persuasive evidence. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Characterization of mesoporous carbon by claimed sum of the mesopore and macropore volumes of the filter particles and the claimed ratio of the sum of the mesopore and macropore volumes of the filter particles to the total pore volume of the filter particles are inherent in the mesoporous carbon of Cannon et al by its mesoporosity absent persuasive evidence. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claims 8 and 19, the claimed sum of the mesopore and macropore volumes of the plurality of filter particles is inherent in the mesoporous carbon of Cannon et al by its mesoporosity absent persuasive evidence. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claims 9 and 22-23, the mesoporous activated carbon particles of Cannon et al is substantially identical to the filter material claimed; therefore the mesoporous activated carbon particles of Cannon et al has inherent capabilities of claimed BRI (Bacterial Removal Index), VRI (Virus Removal Index) and F-BLR (Filter Bacteria Log Removal) and F-VLR (Filter Virus Log Removal) absent persuasive evidence. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claims 11-12 and 24, the filter material from the mesoporous activated carbon particles of Cannon et al is substantially identical to the filter material claimed; therefore, the filter material of Cannon et al has inherent properties of claimed single collector efficiency, filter

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coefficient, point of zero charge and ORP absent persuasive evidence. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claim 13, Cannon et al teach a column i.e. housing having an inlet and an outlet and a filter material disposed in the column comprising a plurality of mesoporous activated carbon particles loaded with an cationic polymer (see col. 2, lines 41-54; col. 9, lines 17-41; Table 2: Ultracarb bituminous or lignite granular activated carbon (GAC) (mesoporous) loaded with PDADMAC (polydiallyldimethylammonium chloride)) for removing perchlorate or other anionic contaminate from ground water wherein activated carbon is thermally treated in ammonia inherently resulting in mesoporous and basic activated carbon (see col. 5, lines 9-19). However, Cannon et al do not teach a filter material formed at least in part from a plurality of filter particles consisting of mesoporous activated carbon filter particles and other materials coated with silver or a silver containing material for bacteria and virus removal. Hill teaches that bacteria are removed from water by activated carbon (see col. 1, lines 36-58). Koslow teaches activated carbon particles made in combination with additional particles made of activated carbon, diatomaceous earth, silicates, sand, clay, etc. for enhanced microbiological interception capabilities (see col. 5, lines 27-42) and coated with silver, effective biocide, onto the active filter particles coated with cationic polymers (see col. 5, line 65 – col. 8, line 6). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the filter of Cannon et al to incorporate additional active particles including activated carbon, diatomaceous earth, silicates, sand, clay, etc. in its filter for enhanced microbiological interception capabilities as suggested by Koslow (see col. 5, lines 27-42).

The use of known mesoporous activated carbon particles with additional particles coated with silver would have been obvious to a person of ordinary skill in the art to yield predictable result of effectively providing potable water by employing sheer bacteria removal capability of activated carbon as suggested by Hill with additional particles for enhanced microbiological interception capabilities (see col. 5, lines 27-42) with a coating of silver as effective biocide under conditions of high ionic strength as suggested by Koslow (see col. 7, lines 53-64). Furthermore, the bacteria removal capability of mesoporous activated carbon is an inherent property of activated carbon. Recitation of “the filter is operable to remove microorganisms from water flowing into said inlet and out of said outlet” is an intended use. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Mesoporous activated carbon particles of Cannon et al in a column has inherent capabilities of claimed F-BLR and F-VLR by its sheer mesoporosity of activated carbon absent persuasive evidence. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Characterization of mesoporous carbon by claimed sum of the mesopore and macropore volumes of the filter particles and the claimed ratio of the sum of the mesopore and macropore volumes of the filter particles to the total pore volume of the filter particles are inherent in the mesoporous carbon of Cannon et al by its mesoporosity absent persuasive evidence. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claims 17-18, the modified mesoporous filter materials of Cannon et al in view of Hill and Koslow is capable of providing potable water by passing contaminated water through its filter as described in above paragraphs.

4. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cannon et al in view of Hill and Koslow as applied to Claims 7 and 13, and further in view of Jagtoyen et al. (US Pub No. US 2004/0040906 A1). Cannon et al in view of Hill and Koslow teaches the filter as described in above paragraph; however, Cannon et al in view of Hill and Koslow does not teach information for use of the filter. Jagtoyen et al teach a package for containing the filter comprising housing containing filter material of activated carbon and information that describes the use of the filter for removal of pathogens, particularly viruses (see paragraphs 0280-0283). It would have been obvious to modify the filter of Cannon et al in view of Hill and Koslow to pack the filter in a package containing useful information regarding the virus removal capability of the filter to inform the user about the benefits and importance of using the filter (Par. 283).

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cannon et al in view of Hill and Koslow as applied to claim 7 above and further in view of Derbyshire et al (US Patent No. 6,057,262). Cannon et al in view of Hill and Koslow teaches the filter as described in above paragraph 3; however, Cannon et al in view of Hill and Koslow does not teach wood-based activated carbon particles. Derbyshire et al teach mesoporous granular activated carbon particles made from wood, nut shell, fruit pit and stone, peat, lignite and sub bituminous coal (see abstract; col. 1, lines 28-46; col. 2, line 39 – col. 3, line 7; col. 4, lines 21-56) wherein mesoporous carbon is used for adsorption of large molecules taking advantage of relatively high pore surface area for increased adsorption activity (see col. 4, lines 48-55). Hill teaches that

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bacteria are removed from water by activated carbon (see col. 1, lines 36-58). Simple substitution of mesoporous wood activated carbon filter particles for mesoporous bituminous or lignite GAC particles of Cannon et al would achieve predictable result of removing large molecules by virtue of equivalent mesoporous carbon having relatively high pore surface area as disclosed in Derbyshire et al as well as providing a capability to remove bacteria from water as taught by Hill. Characterization of mesoporous carbon by claimed BET, total pore volume and sum of the mesopore and macropore volumes of the filter particles are inherent in the mesoporous carbon of Derbyshire et al by its mesoporosity absent persuasive evidence.

6. Applicant's arguments with respect to Claims 7-9, 11-15 and 17-25 have been considered but are moot in view of the new ground(s) of rejection. Applicants' arguments are addressed in above paragraphs 3-5.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is 571-272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/John Kim/
Primary Examiner
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JK
1/6/08